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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,122	02/28/2002	Purdy PinPin Ho	100110117-1	2247

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

TAYLOR, BARRY W

ART UNIT	PAPER NUMBER
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2643

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DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,122

Applicant(s)

HO, PURDY PINPIN

Examiner

Barry W Taylor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 and 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heck et al (5,950,157 hereinafter Heck) in view of Burges (6,411,930).

Regarding claims 1, 4, 9-10 and 13-21. Heck teaches method and system for training a computer-implemented classification system to be able to identify a handset used over a communication network (abstract), comprising:

transforming training data for plurality of handset types into a composite dataset including training feature vectors (see model trainer 415 and 427 figure 2);

configuring a plurality of classifiers based on the composite dataset (see 437 and 439 figure 2);

associating one of the classifiers with one of the handset types not previously associated with any other of the classifiers (see 433 figure 2);

training the classifier to recognize first and second type of handsets (see figure 2 wherein processor 431 outputs normalized model exhibiting the greatest

correlation, see figure 3 also wherein two types of handset models (i.e. carbon and electret) used for training thereby enabling for handset to be identified based upon highest correlation (see 507 figure 3)).

According to Applicant, Heck fails to teach training feature vectors (see paper number 5, Amendment "A", dated 6/16/2004 starting at the bottom of page 3 and continuing to end).

Burges teaches speaker identification using a signal GMM (abstract, figure 1, col. 2 lines 1-21). Burges teaches training feature vectors (col. 3 line 47 – col. 4 line 62, col. 8 lines 5-67, col. 10 line 40). Burges extends the GMM model by using Support Vector Machine (col. 4 line 63 – col. 9 line 58). In other words, using SVM allows for speaker to be classified from all other speakers (col. 7 lines 4-65).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the invention as taught by Heck to first train feature vectors then extend the GMM module to directly include discrimination by using Support Vector Machine as taught by Burges for the benefit identifying feature vectors from speaker I (in cluster J) from feature vectors from all other speakers in cluster J as taught by Burges (columns 5-6).

Regarding claim 2. Heck teaches training data for at least one of the handset types is not obtained directly via handset, but rather derived from training data (see GMM models used column 10).

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Regarding claim 3. Heck teaches updating the auto training data (see column 2 wherein first and second acoustic models formed by training a seed model).

Regarding claims 5-6. Heck teaches updating training data based on test data obtained from handset type in obtaining test data from a handset to be identified (col. 8 lines 11-61).

Regarding claims 11-12. Heck does not explicitly show interrogating as many support vector machines as needed to classify the unidentified handset.

Burges teaches speaker identification using a signal GMM (abstract). Burges extends the GMM model by using Support Vector Machine (columns 5-6). In other words, using SVM allows for speaker to be classified from all other speakers (col. 7 lines 4-65).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the invention as taught by Heck to use Support Vector Machine as taught by Burges for the benefit identifying feature vectors from speaker I (in cluster J) from feature vectors from all other speakers in cluster J as taught by Burges (columns 5-6).

2. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heck et al (5,950,157 hereinafter Heck) in view of Burges (6,411,930) further in view of in view of Goldberg et al (5,970,446 hereinafter Goldberg).

Regarding claims 7-8. Heck in view of Burges fail to show asking user to confirm handset type.

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Goldberg teaches an apparatus and method for the robust recognition of speech during a call in a noisy environment wherein specific background noise models (i.e. different types of phones used) are created. For example, Goldberg shows plurality of models (i.e. different types of phones being used---see microphones 1 to n+1 figure 1 used as modeling means). Goldberg further shows that if model undetermined, then user asked to confirm model type (see column 5 wherein system prompts user by asking "Is this correct?").

Therefore, it would have been obvious for any one of ordinary skill in the art at the time of the invention to modify the invention as taught by Heck in view of Burges to prompt the user as taught by Goldberg enabling for handset(s) to be properly classified when system is not sure of handset type.

Response to Arguments

3. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor whose telephone number is (703) 305-4811. The examiner can normally be reached on Monday-Friday from 6:30am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703) 305-4708. The fax phone number for this Group is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 customer service Office whose telephone number is (703) 306-0377.



**DUC NGUYEN
PRIMARY EXAMINER**